

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of )  
 )  
Amendment of Part 97 of the ) RM-8737  
Commissions Rules Governing )  
the Amateur Radio Service to )  
Facilitate Spread Spectrum )  
Communications )

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

To: The Commission

COMMENTS OF  
TUCSON AMATEUR PACKET RADIO CORPORATION

The Tucson Amateur Packet Radio Corporation ("TAPR") submits these comments in response to the above-referenced petition for rule making (the "Petition") filed by the American Radio Relay League, Incorporated ("ARRL").

BACKGROUND AND STATEMENT OF INTEREST

TAPR is a non-profit (501(c)(3)) scientific and educational organization with more than 2,500 members worldwide. It is chartered to engage in three principal activities: scientific testing and research into the development and improvement of technological systems for use in the amateur radio service including, but not limited to, digital packet radio communications; research and testing of systems, hardware, and software for packet radio local area networks and computer network systems; and disseminating to the public the information obtained as a result of such research and testing.

TAPR was founded in 1982 as a national organization with interests in the areas of packet and digital communications. It grew out of a 1981 effort to design a packet radio Terminal Node Controller, or "TNC," that would be available to amateurs at a modest cost. From these initial designs emerged what is now the *de facto* standard in amateur and many commercial packet radio operations.

Today, TAPR continues as an international, membership-supported research and development organization for the amateur radio community. TAPR continues to develop new communications technology, provide kits for the amateur

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community, and promote the advancement of the amateur art through publications, meetings, and communications standards. TAPR also maintains a web site (<http://www.tapr.org>), which includes a page specifically addressing current amateur spread spectrum issues (<http://www.tapr.org/ss>).

## DISCUSSION

TAPR generally supports the recommendations made by the ARRL in its Petition. Spread Spectrum ("SS") technology has not made great advances in the amateur radio service since it was first permitted in 1985, in part due to the fact that, by today's standards, the Part 97 regulations on amateur spread spectrum are extremely restrictive. In particular, the small number of fixed spreading codes permitted under Section 97.311(d)(1) inhibits the use and development of SS by amateur radio stations. TAPR believes that it is in the public interest, and in the interest of the amateur radio service, to change the rules for SS in order to accelerate the adoption of SS by the general amateur community.

TAPR also supports many of the specific recommendations made by the ARRL.

First, TAPR supports the ARRL's request to modify Part 97.311(b) as it pertains to the unintentional triggering of repeater inputs.<sup>1</sup> This section is redundant with other parts of the Commission's rules and, therefore, is unnecessary.

Second, TAPR supports the ARRL's request to delete sections 97.311(c) and (d), in order to permit SS emissions and spreading codes that are not currently authorized.<sup>2</sup> Elimination of the rule that dictates specific spreading codes is necessary to facilitate further experimentation and to match the provisions allowed under an existing amateur service SS STA, discussed below. In addition, it would facilitate the use and adoption by amateur radio operators of Part 15 SS equipment and hardware.

Third, TAPR supports the ARRL's proposed change to 97.311(g), which would provide for automatic transmitter power control to limit the output power of an SS station to that which is required for communication, when more than one watt of

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<sup>1</sup> ARRL Petition at 7.

<sup>2</sup> ARRL Petition at 8.

output power is used.<sup>3</sup> TAPR, however, differs with the ARRL as to just how simple this requirement would be to implement technically. While TAPR agrees that technically it is simple to control the output power of a transmitter, it is quite another matter to make this control automatic and foolproof. If the Commission decides to proceed with this particular change to the rules, it should phase the change in over some reasonable period of time, in order to give the amateur community the opportunity to develop and deploy SS equipment that properly can meet this requirement.

While, as noted above, TAPR agrees with many of the ARRL's recommendations, it disagrees with a few of the proposals contained in the Petition.

In particular, TAPR differs with the ARRL with respect to the question of which frequencies should be authorized for SS emissions. In the Petition, the ARRL proposes that brief test transmissions of SS emissions be permitted only on those frequency bands in which SS emissions currently are authorized.<sup>4</sup> TAPR believes that SS emissions should be allowed on all frequency bands covered by the SS STA currently held by Mr. Robert Buaas K6KGS (6m and 2m, in addition to the frequency bands currently authorized by Part 97). In addition, the Commission should allow SS emissions in the 219-210 MHz band, which was authorized for use by the amateur radio service after the Buaas SS STA was originally granted in 1992. Finally, the Commission should not impose any restriction on the length of time SS emissions are transmitted. Ample time already has been provided for the experimental phase of SS usage in the amateur service (five years of experimentation under the 1980 AMRAD STA and ten years under the current Part 97 rules), and it is now time to allow SS use without restriction.

TAPR also differs with the ARRL as to how station identification and documentation should be handled under a revised set of rules. The ARRL in its petition did not ask the Commission to delete sections 97.311(e) and 97.119(b)(5) of the rules, even though it questioned the practicality of the requirements set forth in these sections.<sup>5</sup> TAPR, in contrast, recommends that the Commission delete these subsections of the rules. The interference and harm to the band in which an SS

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<sup>3</sup> ARRL Petition at 9.

<sup>4</sup> ARRL Petition at 6-7.

<sup>5</sup> ARRL Petition at 8-9 and n.8.

station is operating that would be caused by a requirement to use a CW identification outweighs the benefits that would accrue for monitoring purposes from the use of the ID.

As a result, the amateur radio community should be permitted to develop an approach for handling the necessary functions of monitoring and identification. TAPR already is working on possible resolutions to this problem and in the near future will be in a position to make a proposal to the Commission on this matter.

### **CONCLUSION**

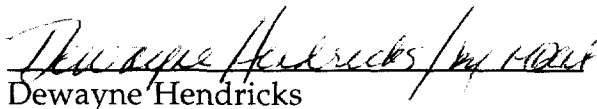
SS technology can provide many useful benefits to the amateur radio community if its use becomes more widespread and mainstream. In order to accomplish this, however, certain changes must be made to the Commission's rules governing the use of SS in the amateur radio service. By making these changes, the Commission will create a regulatory environment that will give members of the amateur radio service enough flexibility to develop innovative equipment and hardware employing SS technology.

For these reasons, TAPR urges the Commission promptly to issue a notice of proposed rule making to facilitate spread spectrum communications in the amateur radio service, as proposed in the Petition and as modified herein.

Respectfully submitted,

**THE TUCSON AMATEUR PACKET RADIO  
CORPORATION**

By:

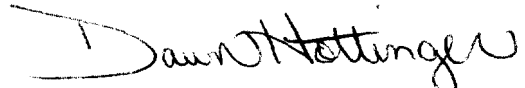
  
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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Comments of Tucson Amateur Packet Radio Corporation was sent by first-class mail, postage prepaid, this 26th day of February, 1996, to each of the following:

American Radio Relay League, Inc.  
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/s/ Dawn Hottinger  
Dawn Hottinger